A Case of Coccidiosis in Man

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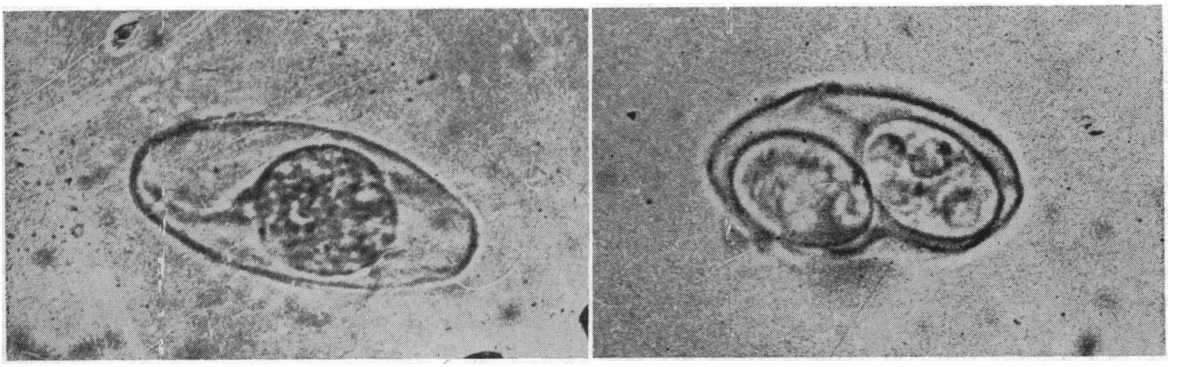
COCCIDIOSIS, a protozoan disease is caused by Coccidia. Infection of man is comparatively rare and little can be found in the literature upon the subject. Although the schizogonic phase of the life cycle in man is unknown, it is assumed that it is similar to that in animals. Its pathogenicity in man is not too well established and is frequently debated.

Coccidiosis in animals is of common occurrence. It may cause a harmless or mild parasitization or an enzootic, severe and fatal enteritis, depending upon the species of coccidia and animal involved. The protozoa are found within the epithelial cells of the intestine and organs connected with it and they have a very high degree of host specificity.

Briefly, the life cycle in the epithelial cell in animals can be compared to malaria in the red blood cell, in that it grows at the expense of the cell; it multiplies asexually (schizogony), forming merozoites. They later re-infect other cells or proceed to the sexual cycle of forming micro- and macrogametocytes. After fertilization of the macrogamete, the zygote develops a resistant wall about itself (oocvst) and is expelled in the feces (Figure 1A). Under a suitable environment of moisture, temperature and oxygen (usually 24 hours or longer depending upon the species and conditions) it undergoes sporulation and is then in its infective stage (Figure 1B).

In one case in which a human was infected, a stool sample was submitted to the laboratory† for confirmation of an "egg" which proved to be coccidial oocysts of *Isospora hominis*. The patient had a history of being afflicted with diarrhea while in the Italian battle zone 30 days before. During hospitalization at various forward hospitals, a laboratory reported the presence of *Endamoeba histolytica, Endolimax nana* and *I. hominis*. The patient was treated from November 7 to November 27 for amoebiasis with emetine hydrochloride intramuscularly and carbarsone orally. The coccidial oocvsts were confirmed November 26 by the author but no trophozoites or cysts of the other two protozoa could be found. At this time, a daily quantitative oocyst count upon freshly passed stools was suggested, the first of which was made on November 27. The number of oocysts per gram of feces was determined by the method described by Beach.[1] The patient was reportedly not diarrheal and had no fever but the W.B.C. rose to 20,000 which prompted sulfonamide therapy on the 29th of November.

The result of the daily oocyst count, per gram of feces, was 61,500 on November 27 which progressively decreased to 34,000 on November 28, 7,300 on November 29, 1,600 on November 30, and none on December 1, 2, and 3. Circumstances would not permit further observations.



A B

Fig. 1.—A, an unsporulated oocyst as it appears in freshly passed stools. B.—A sporulated oocyst. Photographs taken 14 months later from the feces sample reported, preserved in 2.5 per cent potassium dichromate. (Enlarged approx. 3,000 times.)

From this history and data is it interesting to note that although the protozoa, *E. histolytica* and *E. nana* were not observed in the feces between the 21st and 27th day following the first day of therapy, the oocysts of *I. hominis* were found in considerable numbers during a part of this period. Emetine hydrochloride and carbarsone apparently were not efficacious agents for eradicating this sporozoan.

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REFERENCE

1. Beach, J. R.: Cornell Vet., 33:308, 1943.